

THE GOVERNMENT ROLE IN FUELS RESEARCH AND DEVELOPMENT. Robert C. Ketcham, U.S. House of Representatives, Committee on Science and Technology, Washington, D.C. 20515.

The seventies have seen the multi-fold increase in federal support for non-nuclear R&D. At the same time, major institutional changes have occurred within the Legislative and Executive Branches of the Federal Government. This same period has also witnessed the emergence of environmental regulation and review, which added another dimension to decision making.

The U.S. needs a sense of adventure to solve its energy supply shortfall, energy rough-riders, as it were, to focus our technological talent and bring together our industrial and governmental players. Some of the key ingredients for success require: (1) overcoming technological timidity by setting goals for programs and committing necessary funds; (2) making hard choices between competing technologies; (3) budget support at the time a favored technology requires funding for large scale demonstration; (4) support for U.S. industry, profit-making, and aggressive pursuit of world markets; and (5) a recognition that the environment and health and safety are matters that must not be scaled down to obtain energy production, but the existing weapons used by obstructionists must be melted into plowshares for production.

SYNTHETIC FUELS: LET'S GET ON WITH THE JOB. R.E. Balzhiser. Electric Power Research Institute, P.O. Box 10412, Palo Alto, California 94303.

The government has been and should continue to be an active funder of fossil fuel research and development, particularly as it relates to syn-fuels from coal and shale. Work should continue to be supported in universities and industry as well as government facilities, with the principal support of pilot scale development work performed and managed by industry utilizing the cooperative agreement form of government participation. The most urgent need facing the nation relates to the need to develop a synthetic fuels production capability. Uncertainties arising from past regulatory practices have inhibited industry from making the large investments necessary to commercialize these technologies. Government options include: 1) funding demonstration plants, such as the Solvent Refined Coal projects; 2) use of loan guarantees and/or tax incentives; 3) establishment of government owned industry operated plants as was done for synthetic rubber; 4) government purchase of synfuels output; and 5) government mandated production levels with industry selecting the technologies and providing funds in lieu of an excess profits tax. While each approach has its advocates, I believe the latter best fixes responsibility on the government and industry to make those decisions that they are institutionally most qualified to make.

ENVIRONMENTAL REGULATIONS - PRESENT AND FUTURE. S. R. Reznick. U. S. Environmental Protection Agency, Office of Energy, Minerals and Industry, 401 M Street, S. W., Washington, D. C. 20460

Three major pieces of environmental legislation are affecting, and will continue to affect fossil fuel combustion. These are, the Clean Air Act, the Clean Water Act, and the Resource Recovery and Conservation Act. This paper will summarize the new goals established for the Environmental Protection Agency by this legislation and will discuss the major revisions to regulations which will affect fossil fuel combustion for power generation. Proposed standards to reduce airborne emissions from power and utility boilers and to reduce the discharge of waterborne "toxic" pollutants are presented. The requirements of the RCRA, as they are being applied to utility industry sludges, are also discussed.

SOME PERSPECTIVES ON THE VIEWS OF COAL PRODUCERS TOWARDS THE ROLE OF THE FEDERAL GOVERNMENT IN COAL MINING RESEARCH AND DEVELOPMENT. Dr. Joseph J. Yancik, 1130 17th Street, Washington, D.C. 20036

The commercial use of significantly new or improved coal mining technologies requires a long-term commitment from a mine operator. The route to commercialization of new technology begins with the initial concept development and from there it must proceed in an orderly fashion in order to culminate in a mine-worthy system capable of producing coal on a daily basis. The time span may be from 15 to 30 years depending upon a large number of factors that can be grouped under two general headings. The first group includes those considerations which are related to the complexity and degree of innovation involved in the new technology. The second grouping involves factors which are specific to the mining operation, such as its location, life cycle and production requirements. It is important that research and development programs for new mining systems take into account the unique nature of the relationship between the mine site and the extraction system. Since mining occurs under a wide variety of geologic and geographic conditions, there are many different "sets" of requirements for extraction systems. This paper discusses the various roles which the federal government could best assume in the development of new mining systems with special emphasis placed on those aspects which are pertinent to the unique site specific demands of mining R&D. The paper also offers suggestions on how these roles should be planned and implemented to conduct cost effective programs and improve the chances of commercialization.

THE ACADEMIC VIEW OF THE GOVERNMENT ROLE IN FUELS RESEARCH AND DEVELOPMENT
J. H. Gary. Colorado School of Mines, Golden, Colorado 80401

The role of government in fuels research and development is characterized by division into three areas: university research, federal laboratory research and development, and joint government-industry development.

The federal government should fund basic and applied research at the universities to find new sources and processes to produce liquid and gaseous fuels, improvements in known reactions and processes, and ways of eliminating or minimizing undesirable reactions or features of known or new methods.

Federal laboratories should be directed mainly to pilot plant and field development, but should include monitoring of university basic and applied research. Greater interaction between university and federal laboratory programs will improve efficiency and give better and more timely results by greater utilization of the unique strengths of each.

Government-industry efforts should be in the joint sponsoring of large pilot units or process development units after research and development work has shown a process to be sufficiently promising.

It is essential to view and finance programs from a program viewpoint and not on a fiscal year basis. In-depth annual reviews would decide on continuation or termination of a given grant.